



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ATTORNEY DOCKET NO.: 076333-0240

Applicant: Robert H. Getzenberg

Title: BLADDER CANCER NUCLEAR MATRIX PROTEINS,
POLYNUCLEOTIDE SEQUENCES ENCODING THEM, AND THEIR
USE

Application-No.: 09/866,927

Filing Date: May 30, 2001

Examiner: Larry Ronald Helms

Art Unit: 1642

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DECLARATION UNDER 37 C.F.R. §1.132

Commissioner for Patents
Box AF
Washington, D.C. 20231

Sir:

I, Robert H. Getzenberg, being duly warned, hereby declare and state:

1. That I am a citizen of the United States and reside at 1627 Augusta Drive, Pittsburgh, PA 15237-6702.
2. That I am the named inventor of the subject matter disclosed in the United States application Serial No. 09/418,839 ("the application").
3. That I am an Associate Professor at the University of Pittsburgh School of Medicine. I have been doing research and development in the field of nuclear matrix protein biology and tumor markers since 1987. Attached is my Curriculum Vitae to further explain my experience and background.
4. That I have understood the Examiner's position on page 4 of the Office Action, that there is a discrepancy in the molecular weight of the BLCA-6 protein. As evidenced by Getzenberg *et al.* (*Cancer Research* 56:1690-94, 1996), the molecular weight of the BLCA-6 is 31-kD. However, the claimed BLCA-6 protein, as disclosed in the specification, has a molecular weight of 22-kD.

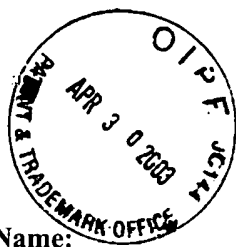
5. That at the time of preparing the instant application and other related applications (parent application; U.S. Patent No. 5,866,535 and a related application, U.S. Patent No. 6,280,956), a clerical mistake was inadvertently made in disclosing the correct molecular weight of the human BLCA-6 protein. At the filing of the priority application, U.S. provisional application No. 60/006226, filed November 3, 1995), Applicant submitted a preprint (see enclosed copy) to his undersigned attorney at Foley & Lardner, to cover the instant invention. The preprint was received and stamped on October 18, 1995. As indicated at page 20, Table 2 of the preprint, the molecular weight of BLCA-6 protein was 22-kD. However, at page 21, Figure 1B, a silver stained 2-D electrophoresis gel depicted a BLCA-6 protein that was above the 29 kD molecular weight marker protein. This error was unnoticed by me or by my undersigned attorney.

6. I am writing this affidavit to stress that the molecular weight of the claimed human BLCA-6 protein is indeed 31-kD and that the correct molecular weight is an inherent property of the protein. One of the ordinary skill in the art, upon following the procedural steps for collecting the samples and performing the protein separation described in the application as filed, would inherently obtain a protein having a molecular weight equal to about 31 kD. Accordingly, the 31-Kd molecular weight is an inherent property of the BLCA-6 protein that results from the above-mentioned techniques. This inherent property was shown in Figure 1B of the preprint and disclosed in the cited art (Getzenberg et al., *Cancer Research* 56:1690-94, 1996).

7. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued therefrom.

Dated: April 11, 2003


Robert H. Getzenberg



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CURRICULUM VITAE

BIOGRAPHICAL

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Name: ROBERT HOWARD GETZENBERG **Birth Date:** March 12, 1965
Home Address: 1627 Augusta Drive **Birth Place:** Haverford, PA 15237-6702
Pittsburgh, PA 15237-6702
Home Phone: (412) 366-9105 **Citizenship:** U. S. A.
Business Address: University of Pittsburgh
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Business Phone: (412) 623-3903 **Business Fax:** (412) 623-3904

EDUCATION AND TRAINING

UNDERGRADUATE:

<i>Dates Attended</i>	<i>Name and Location of Institution</i>	<i>Degree Received and Year</i>	<i>Major Subject</i>
1983 – 1987	Rutgers College, Rutgers University New Brunswick, New Jersey	B.A. w/ High Honors 1987	Microbiology

GRADUATE:

<i>Dates Attended</i>	<i>Name and Location of Institution</i>	<i>Degree Received and Year</i>	<i>Major Professor and Discipline</i>
1987-1992	Johns Hopkins University School of Medicine, Baltimore, Maryland	Ph.D. – 1992	Donald S. Coffey, Ph.D. Biochemistry, Cellular & Molecular Biology

POST-GRADUATE:

<i>Dates Attended</i>	<i>Name and Location of Institution</i>	<i>Name of Program Director and Discipline</i>
1992-1994	Yale University School of Medicine New Haven, Connecticut	Eric R. Fearon, M.D., Ph.D. Postdoctoral Fellowship Department of Pathology

APPOINTMENTS AND POSITIONS

ACADEMIC:

<i>Years Inclusive</i>	<i>Name and Location of Institution or Organization</i>	<i>Title</i>
2000 – Present	Department of Urology University of Pittsburgh School of Medicine Pittsburgh, Pennsylvania	Associate Professor w/tenure and Director of Urological Research
1999 – 2000	Department of Pathology University of Pittsburgh School of Medicine Pittsburgh, Pennsylvania	Associate Professor w/tenure
1999 – Present	Department of Pharmacology University of Pittsburgh School of Medicine Pittsburgh, Pennsylvania	Associate Professor
1994 – 1999	Department of Pathology University of Pittsburgh School of Medicine Pittsburgh, Pennsylvania	Assistant Professor
1995 – 1997	Department of Surgery University of Pittsburgh School of Medicine Pittsburgh, Pennsylvania	Assistant Professor
1995 – 1999	Department of Medicine University of Pittsburgh School of Medicine Pittsburgh, Pennsylvania	Assistant Professor
1995 – 1999	Department of Pharmacology University of Pittsburgh School of Medicine Pittsburgh, Pennsylvania	Assistant Professor
1997 – Present	Prostate and Urologic Cancer Center University of Pittsburgh Cancer Institute	Director of Research and Co-Director
1994 – Present	Prostate and Urologic Cancer Center University of Pittsburgh Cancer Institute	Member
1995 – Present	Graduate Faculty University of Pittsburgh School of Medicine	Member
1996 – Present	Cellular and Molecular Pharmacology Graduate Program University of Pittsburgh School of Medicine	Member
1997 – 1998	Cellular and Molecular Pathology Graduate Program University of Pittsburgh School of Medicine	Member, Executive Steering Committee

1998 – Present	Cellular and Molecular Pathology Graduate Program University of Pittsburgh School of Medicine	Associate Director
1999 - Present	UPCI Planning and Budget Committee University of Pittsburgh Cancer Institute	Member

<i>Years Inclusive</i>	<i>Name and Location of Institution or Organization</i>	<i>Title</i>
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MEMBERSHIPS in PROFESSIONAL and SCIENTIFIC SOCIETIES

<i>Organization</i>	<i>Year</i>
American Society for Cell Biology	1988 – present
Society for Basic Urologic Research	1992 – present
American Association for Cancer Research	1993 – present
American Urological Association – Affiliate Member	1995 – present
American Association for Clinical Chemistry – Member	2000 - present

HONORS

<i>Title of Award</i>	<i>Year</i>
Caspar Nannes Memorial Scholarship Rutgers Club of Washington	1983 – 1987
Henry Rutgers Honor Scholar Rutgers College	1987
Cap and Skull Honor Society, High Skull Rutgers College	1987
High Honors in Microbiology Rutgers College	1987
First Prize, Research, NCI National Meeting on Prostate Cancer, Prouts Neck, Maine	1989
Swebilius Cancer Research Award Yale University School of Medicine	1992 – 1994
American Association for Cancer Research Travel Award Special Conference on Oncogenes and Antioncogenes	1993
Travel Award – Society for Basic Urologic Research Fall Symposium	1993
Shannon Award – National Cancer Institute, National Institutes of Health	1995 – 1997
National Kidney Cancer Association Young Investigator	1996

Honors Convocation – University of Pittsburgh	1997
Society for Basic Urologic Research/Merck Young Investigator Award	1998
Pittsburgh Magazine, “40 under 40” Award	1999
Presenter, American Cancer Society’s 41 st Science Writers Seminar	1999
Honors Convocation – University of Pittsburgh	2000
Chancellors Research Award – University of Pittsburgh	2000

PUBLICATIONS

1. Refereed articles.

1. Nath, P., **Getzenberg, R.H.**, Beebe, D., Pallansch, L. and Zelenka, P. c-myc mRNA is Elevated as Differentiating Lens Cells Withdraw From the Cell Cycle. *Experimental Cell Research* 169; 215-222, 1988.
2. **Getzenberg, R.H.** and Coffey, D.S. Tissue Specificity of the Hormonal Response in Sex Accessory Tissues is Associated with Nuclear Matrix Protein Patterns. *Molecular Endocrinology*, 4(9):1336-1342, 1990.
3. **Getzenberg, R.H.**, Pienta, K.J. and Coffey, D.S. The Tissue Matrix: Cell Dynamics and Hormone Action. *Endocrine Reviews*, 11(3): 399-417, 1990.
4. Boyd, J., Pienta, K.J., **Getzenberg, R.H.**, Coffey, D.S. and Barrett, J.C. Preneoplastic Alterations in Nuclear Morphology that Accompany Loss of the Tumor Suppressor Phenotype. *Journal of the National Cancer Institute*. 83(12):862-866, 1991.
5. Pienta, K.J., Murphy, B.C., **Getzenberg, R.H.** and Coffey, D.S. The Effect of Extracellular Matrix Interactions on Morphologic Transformation *in vitro*. *Biochemical and Biophysical Research Communications*, 179(1):333-339, 1991.
6. **Getzenberg, R.H.**, Pienta, K.J., Huang, E.Y.W., Murphy, B.C. and Coffey, D.S. Modifications of the Intermediate Filament and Nuclear Matrix Networks by the Extracellular Matrix. *Biochemical and Biophysical Research Communications*, 179(1):340-344, 1991.
7. **Getzenberg, R.H.**, Pienta, K.J., Huang, E.Y.W. and Coffey, D.S. Identification of Nuclear Matrix Proteins in the Cancer and Normal Rat Prostate. *Cancer Research*, 51(24):6514-6520, 1991.
8. Pienta, K.J., **Getzenberg, R.H.** and Coffey, D.S. Cell Structure and DNA Organization. *Critical Reviews in Eukaryotic Gene Expression*, 1(4):355-385, 1991.
9. **Getzenberg, R.H.**, Pienta, K.J., Ward, W.S. and Coffey, D.S. Nuclear Structure and the Three-Dimensional Organization of DNA. *Journal of Cellular Biochemistry*, 47:289-299, 1991.
10. Pienta, K.J., **Getzenberg, R.H.** and Coffey, D.S. Characterization of Nuclear Morphology and Nuclear Matrices in Ageing Human Fibroblasts. *Mechanisms of Ageing and Development*, 62:13-24, 1992.
11. Partin, A.W., **Getzenberg, R.H.**, CarMichael, M.J., Vindivich, D., Yoo, J., Epstein, J.I., and Coffey, D.S. Nuclear Matrix Protein Patterns in Human Benign Prostatic Hyperplasia and Prostate Cancer. *Cancer Research*, 53(4):744-746, 1993.
12. **Getzenberg, R.H.** The Nuclear Matrix and the Regulation of Gene Expression: Tissue Specificity. *J. Cell. Biochem.*, 55(1):22-31, 1994.
13. Pierceall, W.E., Cho, K.R., **Getzenberg, R.H.**, Reale, M.A., Hedrick, L., Vogelstein, B., and Fearon, E.R. NIH3T3 Cells Expressing the Deleted in Colorectal Cancer Gene Product Stimulate Neurite Outgrowth in Rat PC12 Pheochromocytoma Cells. *J. Cell Biol.*, 124(6):1017-1027, 1994.

14. Reale, M.A., Hu, G., Zafar, A.I., **Getzenberg, R.H.**, Levine, S.M., and Fearon, E.R. Expression and Alternative Splicing of the Deleted in Colorectal Cancer (DCC) Gene in Normal and Malignant Tissues. *Cancer Research*, 54(16):4493-4501, 1994.
15. Osborn, J.L., **Getzenberg, R.H.**, and Trump, D.L. Spinal Cord Compression in Prostate Cancer. *J. Neuro-Onc.*, 23(2):135-147, 1995.
16. Nardoza, T.A., Quigley, M.M., and **Getzenberg, R.H.** Association of Transcription Factors with the Nuclear Matrix. *Journal of Cellular Biochemistry*, 61(3):467-477, 1996.
17. **Getzenberg, R.H.**, Konety, B.R., Oeler, T.A., Quigley, M.M., Hakam, A., Becich, M.J., and Bahnson, R.R. Bladder Cancer Associated Nuclear Matrix Proteins. *Cancer Research*, 56:1690-1694, 1996.
18. Replogle-Schwab, T.S., Pienta, K.J., and **Getzenberg, R.H.** The Utilization of Nuclear Matrix Proteins for Cancer Diagnosis. *Critical Reviews in Eukaryotic Gene Expression*, 6(1&2):103-113, 1996.
19. Replogle-Schwab, T.S., **Getzenberg, R.H.**, Donat, T.L., and Pienta, K.J. The Effect of Organ Site of Nuclear Matrix Protein Composition. *Journal of Cellular Biochemistry*, 62(1), 132-141, 1996.
20. Konety, B.R., **Getzenberg, R.H.**, and Bahnson, R.R. Diagnostic and Prognostic Markers in Bladder Cancer. *Contemporary Urology*, 8(7), 15-35, 1996.
21. Konety, B.R., Schwartz, G.G., Acierno, J.S., Becich, M.J., and **Getzenberg, R.H.** The Role of Vitamin D in Normal Prostatic Growth and Differentiation. *Cell Growth and Differentiation*, 7, 1563-1570, 1996.
22. **Getzenberg, R.H.**, Light, B.W., Lapco, P.E., Konety, B.R., Nangia, A.K., Acierno, J.S., Dhir, R., Shurin, Z., Day, R.S., Trump, D.L., and Johnson, C.S. Vitamin D Inhibition of Prostate Adenocarcinoma Growth and Metastasis in the Dunning Rat Prostate Model System. *Urology*, 50(6), 999-1006, 1997.
23. Konety, B.R., Nangia, A.K., Nguyen, T-S. T., Veitmeier, B.N., Dhir, R., Acierno, J.S., Becich, M.J., Hrebinko, R., and **Getzenberg, R.H.** Identification of Nuclear Matrix Protein Alterations Associated with Renal Cell Carcinoma. *Journal of Urology*, 159, 1359-1363, 1998.
24. Nangia, A.K., Butcher, J., Konety, B.R., and **Getzenberg, R.H.** Association of Vitamin D Receptors with the Nuclear Matrix of Human and Rat Genitourinary Tissues. *Journal of Steroid Biochemistry and Molecular Biology*, 66(4), 241-246, 1998.
25. Green, J.E., Greenberg, N.M., Ashendel, C.L., Barrett, J.C., Boone, C., **Getzenberg, R.H.**, Henkin J., Matusik, R., Janus, T.J., and Scher, H.I. Workgroup 3: Transgenic and Reconstitution Models of Prostate Cancer. *Prostate*, 36(1), 59-63, 1998.
26. Tang, Y., **Getzenberg, R.H.**, Vietmeier, B.N., Sallcup, M.R., Eggert, M., Renkawitz, R., and DeFranco, D.B. The DNA-Binding and α 2 Transactivation Domains of the Rat Glucocorticoid Receptor Constitute a Nuclear Matrix Targeting Signal. *Molecular Endocrinology*, 12(9), 1420-1431, 1998.
27. Konety, B.R., Nangia, A.K., Nguyen, T-S.T., and **Getzenberg, R.H.** Effect of pre-natal vitamin D (calcitriol) exposure on the growth and development of the prostate and premature death. *The Prostate*, 41(3), 181-189, 1999.

28. Horton, M.J. and **Getzenberg, R.H.** Rat Seminal Vesicle Secretory Protein SVS-II Binds DNA with a Preference for 5' Regulatory Regions of Secretory Protein Genes: Presence Among Components of the Nuclear Matrix. *Journal of Andrology*, 20(2): 7, 1999.
29. Krill, D., Stoner, J., Konety, B.R., Becich, M.J., and **Getzenberg, R.H.** Differential Effects of Vitamin D on Normal Human Prostatic Epithelial and Stromal Cells in Primary Culture. *Urology*, 54 (1) 171-177, 1999.
30. Pirtskalaishvili, G., **Getzenberg, R. H.**, and Konety, B. R. Use of Urine-Based Markers for Detection and Monitoring of Bladder Cancer. *Techniques in Urology*, 5 (4): 179-184, 1999.
31. Konety, B. R. and **Getzenberg, R. H.** Nuclear Structural Proteins as Biomarkers of Cancer. *Journal of Cellular Biochemistry*. 32/33: 183-191, 1999.
32. Pirtskalaishvili, G., Konety, B. R., **Getzenberg, R. H.** Update on Urine-Based Markers for Bladder Cancer. *Postgraduate Medicine*, 106 (6): 85-94, 1999.
33. Konety, B. R., Leman, E., Vietmeier, B., Arlotti, J. A., Dhir R., and **Getzenberg, R. H.** In vitro and In vivo Effects of Vitamin D (calcitriol) Administration on the Normal Neonatal and Pre-Pubertal Prostate. *Journal of Urology*, 164, 1812-1818, 2000
34. Konety, B. R., Nguyen, T-S.T., Brenes, G., Sholder, A., Lewis, N., Bastacky, S., Potter, D., and **Getzenberg, R. H.** Clinical Usefulness of the Novel Marker, BLCA-4, for the Detection of Bladder Cancer. *Journal of Urology*, 164: 634-639, 2000.
35. Konety, B. R., Nguyen, T-S.T., Brenes, G., Lewis, N., Saul, M., Nelson, J. B., and **Getzenberg, R. H.** Evaluation of the Effect of Spinal Cord Injury (SCI) on serum PSA levels, *Urology*, 56: 82-86, 2000.
36. Konety, B.R., Nguyen, T-S.T., Dhir, R., Day, R., Stadler, W.M., Becich, M.J., and **Getzenberg, R.H.** Detection of Bladder Cancer Using a Novel Nuclear Matrix Protein, BLCA-4. *Clinical Cancer Research*, 6: 2618-2625, 2000.
37. Davido, T., and **Getzenberg, R.H.** Nuclear Matrix as Cancer Markers. *Journal of Cellular Biochemistry*, 99:35: 136-141, 2000.
38. Konety, B. R., Lavelle, J. P., Pirtskalaishvili, G., Dhir, R., Meyers, S. A., Nguyen, T-S.T., Hershberger, P., Shurin, M. R., Johnson, C. S., Trump, D. S., Zeidel, M. L., and **Getzenberg, R. H.** Effects of Vitamin D (calcitriol) on Transitional Cell Carcinoma of the Bladder In Vitro and In Vivo. *Journal of Urology*, 165: 253-258, 2001.
39. Arlotti, J.A., Cimino, T.S., Nguyen T-S, T., Jaynes, J.M., Caldwell, A.L., Jr., McKenna, M.J., and **Getzenberg, R.H.** Efficacy of a Synthetic Lytic Peptide in the Treatment of Prostate Cancer. *Urologic Oncology*, 6/3: 97-102, 2001.
40. Krill, D., DeFlavia, P., Dhir, R., Luo, J., Leman, E. Becich, M.J., and **Getzenberg, R.H.** Expression Patterns of Vitamin D Receptor in Human Prostate. *Journal of Cellular Biochemistry* 82: 566-572 2001.
41. Konety, B.R. and **Getzenberg, R.H.** Urine Based Markers of Urological Malignancy. *Journal of Urology*, 165: 600-611, 2001.

42. Brunagel, G., Vietmeier, B.N., Bauer, A.J., Schoen, R.E., and **Getzenberg, R.H.** Identification of Nuclear Matrix Protein Alterations Associated with Human Colon Cancer. *Cancer Research*, 62:2437-2442, 2002.
43. Kulkarni, P., Pirozzi, G., Elashoff, M., Munger, W., Waga, I., Dhir, R., Kakehi, Y., and **Getzenberg, R.H.** Symptomatic and Asymptomatic Benign Prostatic Hyperplasia: Molecular Differentiation Using Microarrays. *Proceedings of the National Academy of Sciences*, 11:7598-7603, 2002.
44. Konety, B.R., Somogyi, G., Atan, A., Muindi, J., Chancellor, M.B., and **Getzenberg, R.H.** Evaluation of Intra-Prostatic Metabolism of 1,25 Dihydroxyvitamin D₃ (Calcitriol) Using a Microdialysis Technique. *Urology*, 59:947-952, 2002.
45. Davido, H. T. and **Getzenberg, R.H.** Utilization of a Urine-Based Assay for BLCA-4 in the Detection of Bladder Cancer. *Journal of Clinical Ligand Assay*, 25:85-86, 2002.
46. Leman, E.S., Arlotti, J.A., Dhir, R., Greenberg, N., and **Getzenberg R.H.** Characterization of the Nuclear Matrix Proteins in a Transgenic Mouse Model and Prostate Cancer. *Journal of Cellular Biochemistry*, 86:203-212, 2002.
47. Leman, E.S., and **Getzenberg, R.H.** Nuclear Matrix Proteins as Biomarkers in Prostate Cancer. *Journal of Cellular Biochemistry*, 86:213-223, 2002
48. Brunagel, G., Vietmeier, B.N., Bauer, A.J., Schoen, R.E., and **Getzenberg, R.H.** Nuclear Matrix Protein Alterations Associated with Colon Cancer Metastasis to the Liver. *Clinical Cancer Research*, 8: 3039-3045, 2002
49. Konety, B.R., **Getzenberg, R.H.** Vitamin D and Prostate Cancer. *Urologic Clinics of North America*, 29:95-106, 2002.
50. Leman, E.S., DeMiguel, F., Gao, A.C., and **Getzenberg, R.H.** Regulation of Androgen and Vitamin D Receptors by 1,25-dihydroxyvitamin D₃ in Human Prostate Epithelial and Stromal Cells. *J. Urol.*, in press, 2003.
51. Leman, E.S., and **Getzenberg, R.H.** The Effects of 1,25-Dihydroxyvitamin D₃ on the Distribution of Androgen and Vitamin D Receptors in Human Prostate Neonatal Epithelial Cells. *Journal of Cellular Biochemistry*, 88: 609-622, 2003.
52. Leman, E.S., Madigan, M.C., Brunagel, G., Takaha, N., Coffey, D.S. and **Getzenberg, R.H.** Nuclear Matrix Localization of High Mobility Group Protein I (Y) in a Transgenic Mouse Model for Prostate Cancer. *Journal of Cellular Biochemistry*, 88:599-608, 2003.
53. Brunagel, G., Shah, U., Schoen, R.E., and **Getzenberg, R.H.** Identification of Calreticulin as a Nuclear Matrix Protein Associated with Human Colon Cancer. *Journal of Cellular Biochemistry*, in press, 2003.
54. Leman, E.S., Arlotti, J.A., Dhir, R., and **Getzenberg, R.H.** Vitamin D and Androgen Regulation of Prostatic Growth. *J. Urol.*, submitted, 2003.
55. Dhir, R., Vietmeier, B., Arlotti, J., Acquafondata, M., Landsittel, D. **Getzenberg, R.H.** Early Identification of Individuals with Prostate Cancer in "Negative Biopsies". *Clinical Cancer Research*, submitted, 2003.

56. Van Le, T-S.T., Myers, J., Konety, B.R., Barder, T., and **Getzenberg, R.H.** Fundamental Characterization of the Bladder Cancer Marker, BLCA-4. *Clinical Cancer Research*, submitted, 2003.
57. Masaaki K., Leman E.S., **Getzenberg, R.H.** and DeFranco, D.B. Common and Distinguishing Features of Steroid Receptor Coactivation by Group 3 LIM Domain Proteins Paxillin and Hic-5/ARA44. *Cancer Research*, submitted, 2003.
58. **Getzenberg, R.H.** Urine-Based Assays for Bladder Cancer. *Laboratory Medicine*, submitted, 2003.
59. Guzey, M., Luo J. and **Getzenberg, R.H.** Vitamin D₃ Modulated Gene Expression Patterns in Primary Prostate Normal and Cancer Cells. *Molecular Cancer Therapeutics*, submitted, 2003.

2. Books, Chapters and Reviews.

1. **Getzenberg, R.H.**, and Coffey, D.S. Tissue Specificity and Cell Death are Associated with Specific Alterations in Nuclear Matrix Proteins, In: Karr, J.P., Tindall, D.J., Coffey, D.S., and Smith, R.G. (eds) *Molecular and Cellular Biology of Prostate Cancer*, Plenum Press, New York, pg 1-13, 1989.
2. Pienta, K.J., Murphy, B.C., **Getzenberg, R.H.**, and Coffey, D.S. The Tissue Matrix and the Regulation of Gene Expression in Cancer Cells. *Advances in Molecular and Cellular Biology*, 7:131-156, 1993.
3. **Getzenberg, R.H.** Book Review of *Essential Endocrinology*. *The Physiologist*, 409, 1996
4. **Getzenberg, R.H.** The Tissue Matrix: Cell Signaling and Hormone Regulation. In: Bittar, E.E. and Bittar, N. (eds) *Principles of Medical Biology*, JAI Press, Inc., Greenwich, CT, 10B:643-662, 1997.
5. Konety, B.R. and **Getzenberg, R.H.** Novel Therapies for Advanced Prostate Cancer. *Seminars in Urologic Oncology*, 15(1):33-42, 1997.
6. Horton, M.J. and **Getzenberg, R.H.** The Role of the Nuclear Matrix in Tissue Specific Gene Expression. In: **Getzenberg, R.H.** (ed.) *Cell Structure and Signalling*, JAI Press Inc., Greenwich, CT, 185-206, 1997.
7. **Getzenberg, R.H.** Telomerase, Aging and Cancer. *AUA News*, 2(4):10, 1997.
8. **Getzenberg, R.H.** Vitamin D and Normal Prostate Growth and Differentiation. *Nutrition Report*, 15(4):25,32, 1997.
9. Uskokovic, M.R., Trump, D.L., **Getzenberg, R.H.**, and Johnson, C.S. Anticancer Activity of Vitamin D Analogs. In: Holick, M.(ed) *Vitamin D Physiology, Molecular Biology, and Chemical Application*, Humana Press, Totowa, NJ, in press.
10. Konety, B.R., Johnson, C.S., Trump, D.L., **Getzenberg, R.H.** Vitamin D in the Prevention and Treatment of Prostate Cancer. *Seminars in Urologic Oncology*, 17:77-84, 1999.
11. **Getzenberg, R.H.**, Reviewer - *Unweaving the Rainbow: Science, Delusion, and the Appetite for Wonder*, Author, Richard Dawkins. *Oncology Times*, 1999.
12. **Getzenberg, R.H.** The Nuclear Matrix and Cytoskeleton. The Role of the Nuclear Matrix and Cytoskeleton in Cancer, In: Chung, L. W. K., Isaacs, W. B. and Simons, J. W. (eds) *Prostate Cancer: Biology, Genetics, and the New Therapeutics*. Humana Press, Totowa, NJ, 2000.

3. Published abstracts.

1. Hitchens, A.D., Wells, P., **Getzenberg, R.H.**, McDonough, F.E., and Wong, N.P. Modulation of salmonellosis symptoms in weanling rats by a yogurt diet. *Fed.Proc.*, 42:1188, 1983.
2. Beebe, D.C. and **Getzenberg, R.H.** Cell Division During Lens Fiber Differentiation In-vitro. Annual Spring Meeting of the Association for Research in Vision and Ophthalmology, Sarasota, FL. *Invest. Ophthalmol. Visual Sci.*, 27:215, 1986.
3. **Getzenberg, R.H.** and Coffey, D.S. Tissue Specificity and Cell Death are Associated with Specific Alterations in Nuclear Matrix Proteins. National Cancer Institute Meeting on Molecular and Cellular Biology of Prostate Cancer, Prouts Neck, ME, Plenum Press, New York, pg 271, 1989.
4. **Getzenberg, R.H.** and Coffey, D.S. Tissue Specificity and Cell Death are Associated with Specific Alterations in Nuclear Matrix Proteins. American Urological Association Annual Meeting, New Orleans, LA. *Journal of Urology*, 143:227A, 1990.
5. Pienta, K.J., **Getzenberg, R.H.**, and Coffey, D.S. Alterations of the Nuclear Matrix in Prostate Cancer. Proceedings American Association for Cancer Research Annual Meeting, Houston, TX. 32:62, 1991.
6. **Getzenberg, R.H.** and Coffey, D.S. Tissue Specific Association of Hormonally Regulated Genes with Tissue Specific Nuclear Matrix Proteins. Society for Basic Urological Research Annual Meeting. Toronto, Ontario, 1991.
7. Pienta, K.J., **Getzenberg, R.H.**, and Coffey, D.S. Alterations in Nuclear Morphology and the Nuclear Matrix in Prostate Cancer. Society for Basic Urological Research Annual Meeting, Toronto, Ontario, 1991.
8. **Getzenberg, R.H.** and Coffey, D.S. Genes in Sex Accessory Tissues are Differentially Associated with Tissue Specific Nuclear Matrix Proteins. American Urological Association Annual Meeting, Toronto, Ontario, *Journal of Urology*, 145:350A, 1991.
9. **Getzenberg, R.H.** and Coffey, D.S. Tissue Specific Association of Hormonally Regulated Genes with Tissue Specific Nuclear Matrix Proteins in Sex Accessory Tissues. Proceedings of the Endocrine Society Annual Meeting, Washington, DC: p.400, 1991.
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11. Coffey, D.S., **Getzenberg, R.H.**, and Pienta, K.J. Nuclear Matrix Alterations Associated With Prostate Cancer in the Dunning Model. American Urological Association Annual Meeting, Washington, DC. *Journal of Urology*, 147:216A, 1992.
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13. **Getzenberg, R.H.**, Pienta, K.J., and Coffey, D.S. The Effect of Extracellular Matrix Interactions on Morphologic Transformation and the Intermediate Filament and Nuclear Matrix Networks. American Urological Association Annual Meeting, Washington, DC. *Journal of Urology*, 147:416A, 1992.
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15. **Getzenberg, R.H.**, Pienta, K.J., and Coffey, D.S. Extracellular Matrix Induced Morphological Transformation and Nuclear Matrix Changes. Annual Meeting of the American Association for Cancer Research, San Diego, CA. *Proceedings of the American Association for Cancer Research*, 33:124, 1992.
16. **Getzenberg, R.H.**, Cho, K.R., Vogelstein, B., and Fearon, E.F. Alterations in Cell Motility and Morphology in Cells Expressing the DCC Tumor Suppressor Gene. AACR Special Conference on Oncogenes and Antioncogenes in Differentiation, Development, and Human Cancer, Big Sky, MT, 1993.
17. Partin, A.W., Mandell, K., Yoo, J., Epstein, J., CarMichael, M., **Getzenberg, R.H.**, and Coffey, D.S. Nuclear Matrix Protein (NMP) Patterns Support a Parallel Model of Progressions for Abnormal Growth of Human Prostatic Tissue.—American Urological Association Annual Meeting, San Antonio, TX. *Journal of Urology* 149(4):376A. 1993.
18. **Getzenberg, R.H.**, Isaacs, J.T., Dalrymple, S., Cho, K.R., Vogelstein, B., and Fearon, E.R. Alterations in Cell Motility and Morphology in Cells Expressing the DCC Tumor Suppressor Gene. Society for Basic Urologic Research Fall Symposium, Houston, TX, 1993.
19. Fearon, E.R., Reale, M.A., Pierceall, W.E., **Getzenberg, R.H.**, Hu, G., Ekstrand, B., Zafar, A., Vogelstein, B., Hedrick, L., and Cho, K.R. Studies of the Deleted in Colorectal Cancer (DCC) Gene in Colorectal Cancer. MD Anderson Symposium, Advances in the Biology and Therapy of Colorectal Cancer, Houston, TX, 1992.
20. Fearon, E.R., Pierceall, W.E., Reale, M.A., Hu, G., **Getzenberg, R.H.**, Hendrick, L., Vogelstein, B., and Cho, K.R. Studies of the DCC (Deleted in Colorectal Cancer) Gene. Keystone Symposium on Tumor Suppressor Genes, Big Sky, MT, 1994.
21. Lee, B.R., Partin, A.W., **Getzenberg, R.H.**, Briggman, J.V., Epstein, J.I., and Coffey, D.S. PC-1, a Novel Matrix Protein in Human Prostate Cancer but not BPH or Normal Prostate. American Urological Association Annual Meeting, 1994.
22. **Getzenberg, R.H.** and Quigley, M.M. Characterization of Prostate Cancer Associated Nuclear Matrix Alterations. American Urological Association Annual Meeting, 1995.
23. Bahnson, R.R., Oeler, T.A., and **Getzenberg, R.H.** Vitamin D Inhibition of Prostate Cancer Cell Growth. Northeastern Section of the American Urological Association Annual Meeting, Cairo, Egypt, 1995.
24. Konety, B.R., Schwartz, G.G., Becich, M.J., and **Getzenberg, R.H.** Role of Vitamin D in Normal Prostatic Growth and Development. 1996 International Symposium – Biology of Prostate Growth, Washington, D.C., 1996.

25. Replogle-Schwab, T.S., **Getzenberg, R.H.**, Donat, T.L., and Pienta, K.J. The Effect of Organ Site on Nuclear Matrix Protein Composition. Proceedings of the American Association for Cancer Research, 37:547, 1996.
26. Konety, B.R., Quigley, M.M., and **Getzenberg, R.H.** Characterization of a Metastatic Dunning Rat Prostate Tumor Specific Nuclear Matrix Protein (NMP) AM-1. Proceedings of the American Association for Cancer Research, 37:73, 1996.
27. Konety, B.R., Quigley, M.M., and **Getzenberg, R.H.** Identification and Characterization of a Metastatic Rat Prostate Tumor Specific Nuclear Matrix Protein (NMP) AM-1. American Urological Association Annual Meeting, Orlando, FL., 1996.
28. Butcher, J.L. and **Getzenberg, R.H.** Association of the Vitamin D Receptor with the Nuclear Matrix. American Urological Association Annual Meeting, Orlando, FL., 1996.
29. **Getzenberg, R.H.**, Konety, B.R., Becich, M.J., and Schwartz, G.G. Role of Vitamin D in Normal Prostatic Growth and Development. American Urological Association Annual Meeting, Orlando, FL., 1996.
30. Perdakis, D.A., Reale, M.A., Rieger-Christ, k., **Getzenberg, R.H.**, Fearon, E.R., and Basson, M.D. DCC Gene Expression Inhibits Motility by Modulating the Motile Phenotype in NIH-3T3 Cells. Association for Academic Surgery, 1996.
31. **Getzenberg, R.H.**, Light, B., Lapco, P., Konety, B., Nangia, A., Trump, D.L., and Johnson, C.S. Vitamin D Inhibition of Prostate Cancer Growth and Metastasis. 7th Prouts Neck Meeting on Prostate Cancer, Prouts Neck, ME, 1996.
32. Konety, B.R., Nangia, A.K., Becich, M.J., Hrebinko, R.L., and **Getzenberg, R.H.** Characteristic Nuclear Matrix Protein Alterations in Renal Cell Carcinoma (RCC). American Urological Association Annual Meeting, New Orleans, LA, 1997.
33. **Getzenberg, R.H.**, Konety, B.R., Nguyen, T.S.T., Vietmeier, B.N., Becich, M.J., Hrebinko, R.L., and Bahnson, R.R. Characterization of Bladder Cancer Associated Nuclear Matrix Proteins. American Urological Association Annual Meeting, New Orleans, LA, 1997.
34. **Getzenberg, R.H.**, Briggman, J.V., Nguyen, T.S.T., Vietmeier, B.N., and Becich, M.J. Utilization of the Prostate Cancer Specific Nuclear Matrix Protein, D-3 for the Detection of Prostate Cancer. American Urological Association Annual Meeting, New Orleans, LA, 1997.
35. Light, B. W., Lapco, P. E., Shuring, Z. R., Konety, B. R., Nangia, A. K., Acierno, J. S., Dhir, R., Trump, D. L., Johnson, C. S., and **Getzenberg, R. H.** *In vivo* inhibition of prostate cancer growth and metastasis by 1,25-hydroxycholecalciferol in the MatLyLu Dunning rat prostate model. Proceedings of the American Association for Cancer Research, 1997.
36. Lapco, P. E., Light, B. W., Konety, B. R., Nangia, A. K., Trump, D. L., Johnson, C. S., and **Getzenberg, R. H.** In vitro effects of 1,25-dihydroxycholecalciferol on Dunning prostate cancer cells. Proceedings of the American Association for Cancer Research, 1997.
37. Konety, B. R., Schwartz, G. G., Becich, M. J., and **Getzenberg, R. H.** Role of Vitamin D in Normal Prostatic Growth and Development. Tenth Workshop on Vitamin D., Strasbourg, France, 1997.

38. **Getzenberg, R. H.**, Light, B. W., Lapco, P. E., Konety, B. R., Nangia, A. K., Acierno, J. S., Dhir, R., Shurin, Z., Day, Roger S., Trump, D. L., and Johnson, C. S. Vitamin D Inhibition of Prostate Cancer Growth and Metastasis *in vivo* and *in vitro*. Tenth Workshop on Vitamin D., Strasbourg, France, 1997.
39. Johnson, C. S., McElwain, M. C., Light, B. W., Yu, W-D., Trump, D. L., and **Getzenberg, R. H.** Anti-Proliferative Effects of Vitamin D and its Analogs in Rodent Tumor Models. Tenth Workshop on Vitamin D., Strasbourg, France, 1997.
40. Trump, D. L., Smith, D. C., Muindi, J., Brufsky, A., Freeman, C., Wilson, J., **Getzenberg, R. H.**, and Johnson, C. S. 1,25 Dihydroxycholecalciferol (1,25 1)3): Preclinical Rationale and Status of Phase I Clinical Trials of Subcutaneous 1,25 D3 - A New Chemotherapeutic Agent. Tenth Workshop on Vitamin D., Strasbourg, France, 1997.
41. Johnson, C. S., McElwain, M. S., Yu, W-D., Modzelewski, R. A., Light, B. W., Trump, D. L., and **Getzenberg, R. H.** Vitamin D: A Potential Therapeutic Agent for Solid Tumors. Greece, 1997.
42. **Getzenberg, R. H.**, Konety, B. R., Nguyen, T-S. T., Vietmeier, B. N., Becich, M. J. and Bahnson, R.R. Characterization of Bladder Cancer Associated Nuclear Matrix Proteins. 2nd World Congress on Urological Research, Pacific Grove, CA, 1997.
43. Horton, M. J. and **Getzenberg, R. H.** DNA-Binding Activity of the Rat Seminal Vesicle Secretory Protein SVS-II. Annual Meeting of The American Society for Cell Biology, Washington, DC. 1997.
44. **Getzenberg, R. H.**, Konety, B. R., Nguyen, T-S. T., Vietmeier, B. N., Becich, M. J. and Bahnson, R.R. Characterization of Bladder Cancer Associated Nuclear Matrix Proteins. AACR Conference on Innovative Approaches to the Prevention, Diagnosis and Therapy of Cancer, Maui, HI, 1998.
45. **Getzenberg, R. H.**, Konety, B. R., Nguyen, T-S. T., Vietmeier, B. N., Becich, M. J. and Bahnson, R. R. Characterization of the Bladder Cancer Specific Nuclear Matrix Protein, BLCA-4. Proceedings of the American Association for Cancer Research, 39: 467, 1998.
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47. Nangia, A. K., Butcher, J., Konety, B. R., Vietmeier, B. N., and **Getzenberg, R. H.** Association of Vitamin D Receptors with the Nuclear Matrix of Human and Rat Genitourinary Tissues. American Urological Association Annual Meeting, San Diego, CA, 159:1, 1998.
48. Konety, B. R., Nangia, A. K., Dhir, R., Becich, M. J., and **Getzenberg, R. H.** The Effect of Pre-Natal Vitamin D Exposure on Subsequent Prostatic Development. American Urological Association Annual Meeting, San Diego, CA, 159: 107, 1998.
49. **Getzenberg, R.H.**, Nguyen, T-S.T., Vietmeier, B.N., Bastacky, S., Konety, B.R. Utilization of the Bladder Cancer Specific Nuclear Matrix Protein, BLCA-4, for the Detection of Bladder Cancer. 8th Annual Society for Basic Urologic Research Fall Symposium (SBUR), Prouts Neck, ME, 1998.
50. Konety, B.R., Nangia, A.K., Thomas, A., Dhir, R., Becich, M.J., and **Getzenberg, R.H.** The Effect of Vitamin D on the Developing Prostate. 8th Annual Society for Basic Urologic Research Fall Symposium (SBUR), Prouts Neck, ME, 1998.
51. Vietmeier, B.N., Stella, A., Liu, B., and **Getzenberg, R.H.** Characterization of the of the Rat Prostate

Cancer Nuclear Matrix Protein, D-2. Proceeding of the American Association for Cancer Research, 1999.

52. Arlotti, J.A., Cimino, T.S., Nyguyen, T.S., Thomas, A., Dhir, R., Jaynes, J.M., Caldwell, A.L., and **Getzenberg, R.H.** Efficacy of a Synthetic Lytic Peptide in the Treatment of Prostate Cancer. Proceeding of the American Association for Cancer Research, 1999.
53. Nguyen, T-S.T., Vietmeier, B.N., Bastacky, S., Konety, B.R., and **Getzenberg, R.H.** Utilization of the Bladder Cancer Specific Nuclear Matrix Protein, BLCA-4 for the Detection of Bladder Cancer. Proceeding of the American Association for Cancer Research, 1999.
54. Konety, B.R., Pirtskalashvili, G., Hershberger, P., Johnson, C.S., **Getzenberg, R.H.** Vitamin D induced apoptosis of bladder tumor cells in vitro. Proceeding of the American Association for Cancer Research, 1999.
55. Konety, B.R., Nguyen, T-S.T., Day, R.S., Sholder, A., Brenes, G., Bastacky, S., **Getzenberg, R.H.** Evaluation of urinary nuclear matrix protein (BLCA-4) levels in patients with spinal cord injury. Proceeding of the American Association for Cancer Research, 1999.
56. Konety, B., Pirtskalashvili, G., Hershberger, P., Johnson, C., **Getzenberg, R.H.** Vitamin D induced apoptosis of bladder tumor cells in vitro. American Urological Association Meeting, Dallas, Texas, 1999.
57. Nguyen, T-S.T., Vietmeier, B.N., Bastacky, S., Konety, B.R., **Getzenberg, R.H.** Utilization of the bladder cancer specific nuclear matrix protein, BLCA-4, for the detection of bladder cancer. American Urological Association Meeting, Dallas, Texas, 1999.
58. Nguyen, T-S.T., Vietmeier, B.N., Bastacky, S., Konety, B.R., **Getzenberg, R.H.** Utilization of a Urine Based Assay for BLCA-4 in the Detection of Bladder Cancer. American Urological Association Meeting, Atlanta, Georgia, 2000.
59. Nguyen, T-S.T., Vietmeier, B.N., Bastacky, S., Konety, B.R., **Getzenberg, R.H.** Utilization of a Urine Based Assay for BLCA-4 in the Detection of Bladder Cancer. Proceeding of the American Association for Cancer Research, San Francisco, CA, 2000.
60. Arlotti, J. A., Cimino, T. S., Nguyen, T-S.T., Dhir, R., Thomas, A., Jaynes, J. M., Caldwell, A. L., and **Getzenberg, R. H.** Efficacy of a Synthetic Lytic Peptide in the Treatment of Prostate Cancer. American Urological Association Meeting, Atlanta, Georgia, 2000.
61. Konety, B. R., Nguyen, T-S.T., Brenes, G., Sholder, A., Lewis, N., Potter, D., Bastacky, S., and **Getzenberg, R. H.** Utility of the Urine Based Biomarkers BLCA-4 in the Detection of Bladder Cancer in Individuals with Spinal Cord Injury (SCI). American Urological Association Meeting, Atlanta, Georgia, 2000.
62. Konety, B. R., Nguyen, T-S.T., Lavelle, J. P., Zeidel, M. L., and **Getzenberg, R. H.** Expression of BLCA-4, a Nuclear Matrix Protein (NMP) Marker in a Carcinogen Induced Model of Bladder Cancer. American Urological Association Meeting, Atlanta, Georgia, 2000.
63. Konety, B. R., Lavelle, J. P., Pirtskalaishvili, G., Calleary, J. G., Meyers, S. A., Ramage, R., Dhir, R., Zeidel, M. L., and **Getzenberg, R. H.** Evaluation of Vitamin D in the Prevention and Treatment of Bladder Cancer. American Urological Association Meeting, Atlanta, Georgia, 2000.
64. Konety, B. R., Leman, E., Vietmeier, B. N., Arlotti, J., Dhir, R., and **Getzenberg, R. H.** In Vitro and In

Vivo Effects of Vitamin D Administration on the Normal Neonatal and Pre-Pubertal Prostate. American Urological Association Meeting, Atlanta, Georgia, 2000

65. Konety, B. R., Somogyi, G., Atan, A., Muindi, J., Chancellor, M. B., and **Getzenberg, R. H.** Evaluation of Intra-Prostatic Metabolism of Vitamin D Using a Novel Microdialysis-Technique. American Urological Association Meeting, Atlanta, Georgia, 2000
66. Leman, E.S., Arlotti, J.A., Greenberg, N., and **Getzenberg, R.H.** Characterization of the Nuclear Matrix Proteins During the Development of Prostate Cancer in a Mouse Model. Society for Basic Urologic Research Fall Symposium, Ft. Myers, Florida, 2000
67. Nguyen, T-S.T., Konety, B.R., Erdos, G., and **Getzenberg, R.H.** Utilization of a Urine Based Assay for BLCA-4 in the Detection of Bladder Cancer. Society for Basic Urologic Research Fall Symposium, Ft. Myers, Florida, 2000
68. Vietmeier, B.N., Stella, A., Liu, B. and **Getzenberg, R.H.** Characterization of the Rat Prostate Cancer Nuclear Matrix Protein, D-2. Society for Basic Urologic Research Fall Symposium, Ft. Myers, Florida, 2000
69. Arlotti, J.A., Konety, B.R., Greenberg, N.M., Bastacky, S.I., Leman, E.S., and **Getzenberg, R.H.** Chemopreventive Efficacy of Vitamin D in a Mouse Model. Society for Basic Urologic Research Fall Symposium, Ft. Myers, Florida, 2000
70. Davido, H.T., Konety, B.R., and **Getzenberg, R.H.** Bladder Cancer and Spinal Cord Injury. Society for Basic Urologic Research Fall Symposium, Ft. Myers, Florida, 2000
71. Whalen, J.D., Mi, Z., Mai, J., Robbins, P.D., and **Getzenberg, R.H.** Protein Transduction: A New Strategy in the Treatment of Prostate Cancer Metastasis To Bone. Society for Basic Urologic Research Fall Symposium, Ft. Myers, Florida, 2000
72. Nguyen, T-S.T., Davido, T., Konety, B. R., and **Getzenberg, R.H.** Utilization of a Urine Based Assay for BLCA-4 in the Detection of Bladder Cancer. American Association for Cancer Research, New Orleans, LA, 2001
73. Kakehi, Y., Kulkarni, P., Dhir, R., Pirozzi G., Munger, W., and **Getzenberg, R.H.** Molecular Differentiation of Histologic and Symptomatic BPH. American Urological Association Meeting, Anaheim, CA, 2001
74. Nguyen, T-S.T., Davido, T., Konety, B. R., and **Getzenberg, R.H.** Utilization of a Urine Based Assay for BLCA-4 in the Detection of Bladder Cancer. American Urological Association Meeting, Anaheim, CA, 2001
75. Bruenagel, G., Vietmeier, B.S., Schoen, R.E., Bauer, A.J., and **Getzenberg, R.H.** Identification of Specific Nuclear Matrix Proteins in Colon Cancer. American College of Surgeons, 2001
76. Nguyen, T-S.T., Davido, T., Konety, B. R., and **Getzenberg, R.H.** Utilization of a Urine Based Assay for BLCA-4 in the Detection of Bladder Cancer. European Congress of Clinical Chemistry and Laboratory Medicine, Prague, Czech Republic, 2001
77. Bruenagel, G., Bauer, T.A., Schoen, R.E., and **Getzenberg, R.H.** Identification of Specific Nuclear Matrix Protein Alterations in Human Colon Cancer. Federation of American Societies for Experimental

Biology (FASEB) Summer Research Conference, Saxtons River, Vermont, 2001

78. Leman, E.S., Arlotti, J.A., Greenberg, N., and **Getzenberg, R.H.** Characterization of the Nuclear Matrix Proteins During the Development of Prostate Cancer in a Mouse Model. Federation of American Societies for Experimental Biology (FASEB) Summer Research Conference, Saxtons River, Vermont, 2001
79. Nguyen, T-S.T., Konety, B.R., Myers, J.M., and **Getzenberg, R.H.** A Highly Novel Specific and Sensitive Urine-Based Assay for the Detection of Bladder Cancer. XVIIth Congress of the European Association of Urology (EAU) Scientific Meeting. Birmingham, England, 2002.
80. Shah, U.S., Dhir, R. and **Getzenberg, R.H.** Characterization of a Novel Protein, JM27, in Prostate Cancer Cell Lines. American Association for Cancer Research, Naples, FL, 2001.
81. Leman, E.S., DeMiguel, F., Gao, A.C. and **Getzenberg, R.H.** Regulation of the Androgen and Vitamin D Receptors by 1,25-dihydroxyvitamin D₃ in Human Prostate Epithelial Cells. American Association for Cancer Research, Naples, FL, 2001.
82. Prakash, K., Pirozzi, G., Elashoff, M., Munger, W., Waga, I., Kanagawa, Y., Dhir, R., Kakehi, Y. and **Getzenberg, R.H.** Differentiation Symptomatic and Asymptomatic BPH: JM-27. American Association for Cancer Research, Orlando, FL, 2002.
83. Prakash, K., Pirozzi, G., Elashoff, M., Munger, W., Waga, I., Kanagawa, Y., Dhir, R., Kakehi, Y. and **Getzenberg, R.H.** Genetic Similarity of BPH from Individuals with Symptoms and Those with Prostate Cancer. American Association for Cancer Research, Orlando, FL, 2002.
84. Nguyen, T-S.T., Konety, B.R., Myers, J.M., and **Getzenberg, R.H.** A Novel Highly Specific and Sensitive Urine-Based Assay for the Detection of Bladder Cancer. American Association for Clinical Chemistry, La Jolla, CA, 2002.
85. Leman, E.S., DeMiguel, F., Gao, A.C. and **Getzenberg, R.H.** Regulation of the Androgen and Vitamin D Receptors by 1,25-dihydroxyvitamin D₃ in Human Prostate Epithelial Cells. American Association for Cancer Research, San Francisco, CA, 2002.
86. Leman, E.S., Arlotti, J.A., Greenberg, N., and **Getzenberg, R.H.** Characterization of the Nuclear Matrix Proteins During the Development of Prostate Cancer in a Mouse Model. American Association for Cancer Research, San Francisco, CA, 2002.
87. Shah, U.S. and **Getzenberg, R.H.** Identification of a Potential Growth Regulatory Gene Demonstrating a "Field Effect" In Prostate Cancer. American Association for Cancer Research, San Francisco, CA, 2002
88. Bruenagel, G., Bauer, T.A., Schoen, R.E., and **Getzenberg, R.H.** Identification of Specific Nuclear Matrix Protein Alterations in Human Colon Cancer and Polyps. Fifth EDNR Steering Committee Meeting, Houston, Texas, 2002.
89. Nguyen, T-S.T., Konety, B.R., Myers, J.M., and **Getzenberg, R.H.** A Novel Highly Specific and Sensitive Urine-Based Assay for the Detection of Bladder Cancer. XVIIth Congress of the European Association of Urology, Birmingham, England, 2002.
90. Björnsson, Björn L., Sylvester, R., **Getzenberg, R.H.**, Oosterlinck, Willem and Goebell, Peter, J. Comprehensive Analysis of Urine-Based Markers for Bladder Cancer – The Proposed Multicenter

Urothelial Neoplasia Detection (MUND) Study. 2nd International NCI-EORTC Meeting on Cancer Diagnostics, Washington, D.C., 2002.

91. **Getzenberg, R.H.**, Davido, T., Konety B.R., Van Le, T-S.T. A Highly Specific and Sensitive Urine-Based Assay for the Detection of Bladder Cancer. Oak Ridge Conference – Cancer Detection and Monitoring: The Next Generation of Diagnostic Tools. La Jolla, California, 2002.
 92. Kulkarni, P., Pirozzi, G., Elashoff, M., Waga, I., Munger, W., Dhir, R., Kakehi, Y., and **Getzenberg, R.H.** Genetic Similarity of BPH from Individuals with Symptoms and Those with Prostate Cancer. American Urological Association, Inc., Annual Meeting. Orlando, Florida, 2002.
 93. Kulkarni, P., Pirozzi, G., Elashoff, M., Waga, I., Munger, W., Dhir, R., Kakehi, Y., and **Getzenberg, R.H.** Differentiating Symptomatic and Asymptomatic BPH: JM-27. American Urological Association, Inc., Annual Meeting. Orlando, Florida, 2002.
 94. Bruenagel, G., Bauer, T.A., Schoen, R.E., and **Getzenberg, R.H.** Identification of Specific Nuclear Matrix Protein Alterations in Human Colon Cancer and Polyps. American Association of Cancer Research/Frontiers in Cancer Prevention Research Conference, Boston, MA, 2002
 95. Shah, U.S., McDonald, P., Johnston, R., and **Getzenberg, R.H.** Tissue Localization of an Androgen-Regulated, Novel Marker in Diseased Prostate. Society for Basic Urologic Research Fall Symposium, Tucson, Arizona, 2002.
 96. Van Le, T-S.T., Konety, B.R., and **Getzenberg, R.H.** Utilization of a Urine Based Assay for BLCA-4 in the Detection of Bladder Cancer. Society for Basic Urologic Research Fall Symposium, Tucson, Arizona, 2002.
 97. Vietmeier, B.N., Arlotti, J.A., Acquafondata, M.B., Dhir, R., Masterson, R., and **Getzenberg, R.H.** Early Identification of Individuals with Prostate Cancer in “Negative Biopsies”. Society for Basic Urologic Research Fall Symposium, Tucson, Arizona, 2002.
 98. Guzey, M., Luo, J., and **Getzenberg, R.H.** Identification of Genes Involved in Vitamin D and Anticancer Activity in the Prostate. Society for Basic Urologic Research Fall Symposium, Tucson, Arizona, 2002.
 99. Van Le, T-S.T., Myers, J.M., and **Getzenberg, R.H.** Utilization of a Urine Based Assay for BLCA-4 in the Detection of Bladder Cancer. International Bladder Symposium, Arlington, VA, 2003
 100. Myers, J.M., Van Le, T-S.T., and **Getzenberg, R.H.** Characterization of Nuclear Matrix Changes Involved in Bladder Cancer Progression. International Bladder Symposium, Arlington, VA, 2003
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PROFESSIONAL ACTIVITIES

TEACHING:

- 1994 "The Role of Nuclear Structure in Gene Regulation and Cancer"
Medical Oncology Grand Rounds, University of Pittsburgh Medical Center
Pittsburgh, PA
- 1994 "The Role of the Nuclear Matrix in Prostate Cancer"
Urology Grand Rounds, University of Pittsburgh Medical Center, Pittsburgh, PA
- 1994–Present Organized bi-monthly research conference for investigators, fellows and students with
interests in prostate and GU cancers.
- 1994–Present Cancer Research and the Pittsburgh Cancer Institute
Presented a weekly orientation for local High School students sponsored by the LHAS.
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- 1994- 1995 Sponsored Directed Research (Course # Bioscience 1903) for undergraduate Jeff Butcher entitled,
"Examination of Vitamin D Receptors on the Nuclear Matrix"
- 1995 Sponsored Directed Research (Course # Bioscience 1903) for undergraduate Tisha Nardoza
entitled, "Association of Transcription Factors with the Nuclear Matrix"
- 1995 "The Role of the Nuclear Matrix in Gene Regulation and Cancer"
Department of Pharmacology Seminar, University of Pittsburgh Medical Center
Pittsburgh, PA
- 1995 "The Role of the Nuclear Matrix in Gene Regulation and Cancer"
Human Genetics Seminar - HUGEN 2025, University of Pittsburgh
Pittsburgh, PA
- 1995 Pittsburgh Cancer Institute Orientation
- 1995 Lectured in Department of Pharmacology Graduate Course, *Cancer Pharmacology*
- 1995 Facilitator for Medical Student course *Cancer Pharmacology*
- 1995 Comprehensive Examination Committee, Edwina C. Lerner
Department of Pharmacology
- 1995- 1996 Training of Dr. Badrinath R. Konety, Urology Resident
Laboratory Research
- 1996–Present Thesis Committee, Yuting Tang
Department of Biology - Donald DeFranco, Thesis Advisor
- 1996 Pharmacology Course
Problem Based Learning Session Leader

1996 Lectured in Department of Pharmacology Graduate Course, *Cancer Pharmacology*

1996 Lectured in "From Bench to Bedside - Frontiers in Cancer Research
University of Chicago

1996 Integrated Life Sciences - Neoplastic Disease Course (2/96-3/96)

1996 Comprehensive Examination Committee, Marni Brisson Department of Pharmacology

1996 Training of Dr. Ajay K. Nangia, Urology Resident
Laboratory Research

1996 "Recent Advances in Prostate and Bladder Cancer"
Urology Grand Rounds, University of Pittsburgh Medical Center, Pittsburgh, PA

1996 Laboratory Research Rotation, Lei Zheng, Department of Pathology, Graduate Student

1996 Training of Amy Abdulovic, High School Student Intern

1997 Lectured in Graduate Biochemistry Course, West Virginia University, Department of
Biochemistry, "Nuclear Matrix and Regulation"

1997 Pharmacology Course
Problem Based Learning Session Leader

1997 UPCI, Biologic Therapy Program, Biologic Therapy and Transplantation Research
Colloquia, "Novel Approaches to Prostate and Bladder Cancer: Nuclear Matrix and
Vitamin D"

1997 Cancer Research, National Defense University, Industrial College of the Armed Forces,
University of Pittsburgh Cancer Institute

1997 Faculty, 1997 American Urological Association Annual Meeting, "Understanding Molecular
Techniques and Their Applications to Urology", New Orleans, LA

1997 Facilitator for Medical Student *Pharmacology Conference on Host Defenses*

1997 Lectured in Department of Pharmacology Graduate Course, *Cancer Pharmacology*

1997 Hematology/BMT Research Seminar. "Novel Approaches to Prostate and Bladder Cancer:
Nuclear Matrix and Vitamin D"

1997 Judge - 8th Annual Department of Pathology Research Presentations

1997 Cancer and Cancer Research, Visiting Nurses from Japan, University of Pittsburgh Cancer
Institute

1997 Presented to UPCI Council Members

1997 "The Nuclear Matrix and Cancer"
Medical Oncology Grand Rounds, University of Pittsburgh School of Medicine Pittsburgh, PA

1997	"Cancer Associated Nuclear Matrix Proteins" Pathology Research Seminar, University of Pittsburgh School of Medicine, Pittsburgh, PA
1997-1999	Thesis Committee, Jimin Liu Department of Biology - Donald DeFranco, Thesis Advisor
1997	Cancer and Cancer Research, Nursing Students, University of Pittsburgh Cancer Institute
1997-1998	Thesis Committee, Jen-Tzer Gao Department of Pathology - Michael J. Becich, Thesis Advisor
1997-1998	Supervised Undergraduate Research Project of Kyle Fisher
1998	Pharmacology Course Problem Based Learning Session Leader
1998	Facilitator for Medical Student <i>Pharmacology Conference on Host Defenses</i>
1998-Present	Prostate Cancer and Cancer Metastasis Lectures of School of Medicine Graduate Course, "Cancer Biology", University of Pittsburgh School of Medicine
1998	Lectures of School of Medicine Course, "Tissue Structure, Growth and Function": University of Pittsburgh School of Medicine
1998	Cancer Research, National Defense University, Industrial College of the Armed Forces, University of Pittsburgh Cancer Institute
1998	Faculty, 1998 American Urological Association Annual Meeting, "Understanding Molecular Techniques and Their Applications to Urology", San Diego, CA
1998-2000	Preceptor for Dr. Badrinath R. Konety, American Foundation for Urologic Disease and Foundation for Strategic Bladder Research Scholar
1998-Present	Thesis Committee, Jennifer Guerrero Department of Biology - Donald DeFranco, Thesis Advisor
1998-2000	Thesis Committee, Mark Whitmore Department of Pharmacology - Leaf Huang, Thesis Advisor
1998	Summer Internship, Amy Abdulovic Grove City College
1998	Comprehensive Examination Committee, Yadi Tan Department of Pharmacology
1998	Research Rotation, M.D., Ph.D. Program Jared Muenzer
1998	Lectured in the Medicine, Ethics and Society Course, School of Medicine
1998	Presentation on Medical Ethics to M.D., Ph.D. Students, University of Pittsburgh School of Medicine

1998-Present	Co-Director and Lecturer Neoplasia and Neoplastic Diseases Course, Medical Students, University of Pittsburgh School of Medicine
1998-1999	Thesis Committee, Michael Gray Molecular Genetics and Biochemistry – Bo Liu, Thesis Advisor
1998-Present	Faculty Advisor, Interdisciplinary Graduate Program Eddy Leman
1999	“New Marker to Detect Bladder Cancer”. Healthsouth Harmarville Rehabilitation Hospital, Rehabilitation Mini-Grand Rounds, Harmarville, PA.
1999	Lectured on Prostate Biology in “Tissue Structure, Growth and Function”. University of Pittsburgh School of Medicine.
1999	Pharmacology Course Problem Based Learning Session Leader
1999	Training of Kate Dougherty – High School Intern
1999	Research Rotation, Interdisciplinary Graduate Program – Matthew Wilson
1999	Lectured in the Medicine Ethics and Society Course, School of Medicine
1999	Lectured in the Foundations of Biomedical Science, School of Medicine
1999	"The Role of the Nuclear Matrix in Gene Regulation and Cancer" Pharmacology Research Seminar, University of Pittsburgh School of Medicine, Pittsburgh, PA
1999	Research Rotation, Interdisciplinary Graduate Program – Andrew Lepisto
1999	“Cancer and Cancer Research” Grove City College, Grove City, PA
2000	Lectured on Prostate Biology in “Tissue Structure, Growth and Function”. University of Pittsburgh School of Medicine.
2000	“Current Advances in Bladder Cancer” Armstrong County Memorial Hospital – Tumor Board Kittanning, PA
2000	Summer Internship, Amy Abdulovic Grove City College
2000	Summer Internship, Roger Bartollota
2000	Course Director/Integrated Life Sciences Course/Neoplasia and Neoplastic Disease – University of Pittsburgh

2000	Pathobiology Course – Lecturer “Nuclear Controls and Transcription Regulation in Prostate Cancer”
2000-2002	Training of Tracy Davido, Medical Student IV Laboratory Research
2000-2002	Training of Janey Whalen, Ph.D. Postdoctoral Fellow
2000	Lectured in the Medicine Ethics and Society Course, School of Medicine
2000	Research Rotation, Jared Muenzer, Medical Student IV
2000-2003	Gisela Brüenagel, M.D. Postdoctoral Fellow-Feodor Lynen Fellowship Award
2000-2001	Research Rotation, Interdisciplinary Graduate Program – Lana Hanford
2000	Lectured in the Foundations of Biomedical Science, School of Medicine
2000	Lectured in the Medicine Ethics and Society Course, School of Medicine
2000	Course Director/Integrated Life Sciences Course/Neoplasia and Neoplastic Disease University of Pittsburgh
2001	Lectured on Prostate Biology in “Tissue Structure, Growth and Function” University of Pittsburgh School of Medicine
2001-Present	Interdisciplinary Graduate Program /Thesis Advisor/Molecular Pharmacology Training Program Julie Myers
2001	Thesis Committee, Department of Pathology – Lei Zheng, Michael J. Becich, Thesis Advisor
1999-2002	Interdisciplinary Graduate Program/Thesis Advisor – Eddy Leman
2001	Summer Internship, Pittsburgh Tissue Engineering Initiative, Inc. – Michael Madigan
2001	Summer Undergraduate Research Program – Elizabeth Pino
2001	Summer Internship, Amy Abdulovic / Grove City College
2001-Present	Training of Uzma Shah, Ph.D. Postdoctoral Fellow
2001	Cancer Biology and Therapeutics Course - Lecturer “Biology of Transformation: Invasion and Metastasis” Departments of Pathology & Pharmacology – University of Pittsburgh
2001	Pathobiology Course – Lecturer “Nuclear Controls and Transcription Regulation in Prostate Cancer”

2001	Lectured in the Foundations of Biomedical Science, School of Medicine
2001	Lectured in Human Genetics Seminar, School of Medicine "Novel Approaches to Urologic Diseases: Cancer and BPH"
2002	Thesis Committee, Cellular and Molecular Pathology Training Program – Lei Zheng, Michael J. Becich, Thesis Advisor
2001	Lectured in Integrated Life Sciences Course/Neoplasia and Neoplastic Disease – University of Pittsburgh
2002-Present	Training of Meral Guzey, Ph.D. Postdoctoral Fellow
2002	Summer Internship – Kristin Stolarczyk / Penn State University
2001-2002	Research Rotation, Interdisciplinary Graduate Program – Marie Aquilano
2002	Summer Internship – Michael Madigan
2002	Pittsburgh Development Center Seminar Series – Magee-Womens Research Institute "Genomic and Proteomic Approaches to Urologic Cancers and Benign Diseases – University of Pittsburgh
2002	Lectured in the Foundations of Biomedical Science, School of Medicine
2002	Thesis Committee, Cellular and Molecular Pathology Training Program - Jeffrey Chou
2002	Thesis Committee, Robert H. Getzenberg, Thesis Advisor Cellular and Molecular Pathology Training Program, Eddy Leman
2002	Summer Research Undergraduate Program – Henry Richard Johnston, IV Research Rotation, Interdisciplinary Graduate Program
2002	Summer Undergraduate Research Program – Matthew Germinaro Research Rotation, Interdisciplinary Graduate Program
2002	Summer Undergraduate Research Program – Elizabeth Pino Research Rotation, Interdisciplinary Graduate Program
2002	Summer Graduate Research Program/Academic Advisor – Peter McDonald Research Rotation, Interdisciplinary Graduate Program
2002	Lectured in Integrated Life Sciences Course/Neoplasia and Neoplastic Disease – University of Pittsburgh
2002	Cancer Biology and Therapeutics Course - Lecturer

“Biology of Transformation: Invasion and Metastasis”

Departments of Pathology & Pharmacology – University of Pittsburgh

- | | |
|-----------|------------------------------------------------------------------------------------------------------|
| 2002 | Lectured in the Foundations of Biomedical Science, School of Medicine |
| 2002 | Pathobiology Course – Lecturer
“Nuclear Controls and Transcription Regulation in Prostate Cancer” |
| 2002-2003 | Research Rotation, Interdisciplinary Graduate Program – Sheila Roberts |
| 2003 | Research Rotation, Interdisciplinary Graduate Program – Kathy Bright |
| 2003 | Training of Manimalha Balasubramani, Ph.D.
Postdoctoral Fellow |
| 2003 | Thesis Committee,
Department of Pathology – Sourabh Kharait, Alan Wells, Thesis Advisor |

RESEARCH:

1. Grant Support

Active

<u>Grant Number (Funded)</u>	<u>Grant Title</u>	<u>Role in Project & Percentage of Effort</u>	<u>Years Inclusive</u>	<u>Source</u>
5RO1 DK52697	Effects of Vitamin D on Human Prostate Growth	Principal Investigator 14.7%	1997-2003	NIH
1RO1 CA82522-01A1	Characterization of the Bladder Cancer NMP, BLCA-4	Principal Investigator 17.7%	2000-2005	NIH
1 P01 HD39768-01	Collaborative Urologic Research In Spinal Cord Injury- Project 3-Biomarkers of Bladder Cancer in SCI Individuals	Principal Investigator 14%	2001-2006	NIH
	Sponsored Research Agreement	Principal Investigator 0%	2002-2003	Tessera Diagnostics, Inc.
	Sponsored Research Agreement	Principal Investigator 0%	1999-2003	Eichrom Technologies, Inc.
1 R13 CA/DK97015	Prouts Neck Prostate Cancer Meeting	Principal Investigator 0%	2002-2006	NCI
NIH-UO1DK063593	MTOPS Biomarker Unit at the University of Pittsburgh	Principal Investigator 25%	2002-2005	NIH
NIH-R01-CA96105-01	Specific Biomarkers in Bladder Cancer Prevention	Principal Investigator 25%	2003-2006	NIH
5P 30 CA47904-13	Prostate and Urologic Cancer Program-UPCI Cancer Center Core Grant	Program Co-Director 5%	1999-2004	NIH
1 K12 DK02656-01 1 T32 DK07774-01	Physicians and Scientist Training Program in Urologic Research	Co-Investigator 5%	1999-2004	NIH
N01-CN-75018	A Phase II Clinical Trial of Anti-Androgen and 5-alpha Reductase Inhibitors in Patients With Prostate Cancer. Administration in the Period Prior to Radical Prostatectomy	Co-Investigator 0%	1996-2003	NIH

(Presurgical Period). Modulation
of Surrogate Endpoint Biomarkers
(Seb)

DAMD3058093	A Novel Approach in Prostate In Prostate Cancer Therapy	Co-Investigator 8%	2001-2004	DOD
N01-CO-17016-32	Development of an <i>in-vivo</i> Sensing Technology for the Development of Biomolecular Sensors	Co-Investigator 10%	2001-2004	NIH

Previous

<u>Grant Number</u> (Funded)	<u>Grant Title</u>	<u>Role in Project & Percentage of Effort</u>	<u>Years Inclusive</u>	<u>Source</u>
1R55 CA/OD65463	Shannon Award	Principal Investigator	1995-1997	NIH
	Evaluation of Nuclear Matrix Protein Markers in Renal Cell Carcinoma	Principal Investigator	1996-1997	National Kidney Foundation of W. Penn.
	Bladder Cancer Associated Nuclear Matrix Alterations	Principal Investigator	1996-1997	Comp. Medical Research Fund
	The Clinical Utility of Renal Cell Carcinoma Associated Nuclear Matrix Proteins	Principal Investigator	1996-1997	National Kidney Cancer Assoc.
	Sponsored Research Agreement	Principal Investigator	1996-1997	Matritech
	Demeter Bio Technologies Ltd.	Principal Investigator	1997-2000	Demeter
1R03 HD35878	Spinal Cord Injury and Bladder Cancer Detection	Principal Investigator 10%	1998-2000	NIH
	The Study of LY353381 In Prostate Cancer	Principal Investigator	1998-2000	Lilly & Co.
1R29 CA65463	Prostate Cancer Associated Nuclear Matrix Alterations	Principal Investigator 25%	1996-2001	NIH
	Sponsored Research Agreement	Principal Investigator	1999-2002	TAP Pharm.

	Sponsored Research Agreement	Principal Investigator	1999-2002	GeneLogic
1 R13 CA091916	FASEB Conference: Nuclear Structure and Cancer	Conference Co-Chair 0%	2001-2001	NIH
	Induction of an Immune Response to Normal Prostate Antigens as an Immunotherapeutic Strategy for Prostate Cancer	Co-Investigator	1996-1997	CaP CURE
	Role of Extracellular Matrix And Nuclear Structure Interactions in Gene Expression And Breast Cancer: Use of a 3D Culture Model of Human Mammary Tumorigenesis	Consultant	1997-2000	DOD
	Chemoprevention of Urinary Bladder Cancer by NSAIDS	Consultant	2000- 2001	University of Alabama at Birmingham

Pending

<u>Grant Number (Funded)</u>	<u>Grant Title</u>	<u>Role in Project & Percentage of Effort</u>	<u>Years Inclusive</u>	<u>Source</u>
NIH-R01 52697-06	Vitamin D Effects on Human Prostate Growth	Principal Investigator 25%	2002-2007	NIH
NIH-R01CA098707	Characterization of the Colon NMP, CC-2	Principal Investigator 15%	2002-2007	NIH
NIH-R01 DK063022	JM-27, A Potential Regulator of Symptomatic BPH	Principal Investigator 25%	2002-2007	NIH
NIH – P50 CA090243	SPORE in Prostate Cancer Project 2	Co-Principal Investigator 15%	2003-2007	NIH
NIH – P50 CA090243	SPORE in Prostate Cancer Administrative Core	Co-Principal Investigator 5%	2003-2007	NIH
NIH – P50 CA090243	SPORE in Prostate Cancer Career Developmental Program	Principal Investigator 5%	2003-2007	NIH

Patent Applications

Partin, A.W., Getzenberg, R.H., and Coffey, D.S., “Nuclear Matrix Proteins”, U.S. Serial No. 08/015,624, 1993 (Awarded 9/97).

Getzenberg, R.H., "Nuclear Matrix Proteins, Polynucleotide Sequences Encoding Them, and Their Use", U.S. Serial No. 09/418,839, 1999 (Pending).

Getzenberg, R.H. and Bahnson, R.R., "Bladder Cancer Nuclear Matrix Proteins", 1995. U.S. Patent Number 5,866,535 (Awarded 2/99).

Getzenberg, R.H., "Renal Nuclear Matrix Proteins and Their Use", 1997. U.S. Patent Number 6,232,443 (Awarded 5/01).

Munger, W.E., Kulkarni, P., and Getzenberg, R.H., GeneLogic – "Identification of cDNAs Associated with Benign Prostatic Hyperplasia", 2000 (Pending).

Getzenberg, R.H., Bauer, A.J., Schoen, R.E., Bruenagel, G., "Colonic Nuclear Proteins, Polynucleotide Sequences, Encoding Them and Their Use", Supported by NCI – Grant No. U01 CA84968, 2001 (Pending)

2. Seminars and invited lectureships related to your research

- 1990 "Tissue Specificity of the Nuclear Matrix in Hormone Action"
Annual Meeting of the American Society for Cell Biology, San Diego, CA.
- 1991 "Interaction of Tissue Specific Genes with Tissue Specific Nuclear Matrix Proteins in Rat Sex Accessory Tissues"
Annual Meeting of the American Society for Cell Biology, Boston, MA.
- 1992 "Nuclear Matrix Alterations Associated with Prostate Cancer in the Dunning Model"
American Urological Association Annual Meeting, Washington, DC.
- 1992 "Characterization of the Tissue Matrix Components of the Normal Prostate and Benign Prostatic Hyperplasia in the Beagle"
American Urological Association Annual Meeting, Washington, DC.
- 1992 "Tissue Specific DNA Organization and the Nuclear Matrix: Normal and Cancer Cells"
National Institutes of Health, Bethesda, MD.
- 1993 Gordon Conference on Biological Structure and Gene Expression
Volterra, Italy
- 1994 FASEB Conference – Molecular Genetic Basis of Cell and Tissue Structure and Function
Copper Mountain, CO
- 1995 "Characterization of Prostate Cancer Associated Nuclear Matrix Alterations"
American Urological Association Annual Meeting, Las Vegas, NV
- 1995 "The Role of the Nuclear Matrix in Prostate Cancer"
Society for Basic Urologic Research – 5th Annual Fall Symposium, Chapel Hill, NC
- 1995 "Recent Studies in Cancer Associated NMPs: Rat Prostate and Human Bladder"
Matritech, Inc., Cambridge, MA

- 1996 "Prostate and Bladder Cancer Associated Nuclear Matrix Proteins"
Hematology/Oncology Research Seminar, University of Michigan School of Medicine
- 1996 Prostate Cancer Prevention Workshop: Investigational Approaches and Opportunities for Preventing Prostate Cancer, National Cancer Institute, Annapolis, MD.
- 1996 "Characterization of Prostate and Bladder Cancer Associated Nuclear Matrix Proteins" Nuclear Structure-Gene Expression Interrelationships, Cambridge Symposia, Bolton Valley, VT
- 1996 "Prostate and Bladder Cancer Associated Nuclear Matrix Proteins"
The University of Chicago, Chicago, IL
- 1996 "Nuclear Matrix Organization" Faculty, American Urological Association 1996 Research Conference, "Advances in Cell Biology", Houston, TX.
- 1996 "The Nuclear Matrix and its Role in Cancer"
Visiting Speakers in Cancer, Case Western Reserve University, Cleveland, OH
- 1996 "Novel Approaches to Prostate Cancer: Nuclear Matrix and Vitamin D"
Prostate Cancer Program, Eli Lilly & Co., Indianapolis, IN
- 1996 "The Nuclear Matrix and Cancer"
Behring Diagnostics Inc., San Jose, CA
- 1997 "The Nuclear Matrix and its Role in Cancer"
Department of Biochemistry, West Virginia University
- 1997 "Novel Approaches to Prostate and Bladder Cancer: Nuclear Matrix and Vitamin D"
GU Oncology Conference, University of Michigan, Ann Arbor, MI
- 1997 "Nuclear Protein Matrix"
National Kidney Cancer Association Scientific Conference, Short Hills, NJ
- 1997 International Workshop on Diagnostic and Prognostic Markers in Bladder Cancer,
Barcelona, Spain
- 1997 Judge-Third Annual Oakland Scientific Conference, Pittsburgh, PA
- 1997 "The Nuclear Matrix and Cancer"
Bard Diagnostic Sciences, Inc., Redmond, WA
- 1997 Animal Models of Prostate Cancer – International Commission on Urological Diseases
Purdue University, West Lafayette, IN
- 1998 "Nuclear Matrix Proteins"
Bladder Cancer: New Concepts in Biology and Therapy, Sarasota, FL
- 1998 "Analysis of Demeter Peptide D2A21"
Pacific West Cancer Foundation, Maui, HI
- 1998 "Cancer and Cancer Research"

Seton Hill College, Greensburg, PA

- 1998 "The Nuclear Matrix and Cancer"
Ortho-Clinical Diagnostics, Raritan, NJ
- 1998 "Cancer Associated Nuclear Matrix Proteins"
Keystone Symposia, The Nuclear Matrix: Involvement in Genomic Organization,
Function and Cellular Regulation, Copper Mountain, CO
- 1998 "The Nuclear Matrix and Cancer"
Bristol-Myers Squibb Oncology, Princeton, NJ
- 1998 Kidney Cancer Futures Forum
National Kidney Cancer Association, Chicago, IL
- 1998 "Approaches to Prostate and Bladder Cancer: Nuclear Matrix and Vitamin D"
Johnson, Twardy, Grandis, Steinman Laboratory Group
- 1998 "Nuclear matrix Proteins and Cancer Diagnosis"
Ortho-Clinical Diagnostics, Rochester, NY
- 1998 "Approaches to Prostate and Bladder Cancer: Nuclear Matrix and Vitamin D"
Life Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA
- 1998 "Approaches to Prostate and Bladder Cancer: Nuclear Matrix and Vitamin D"
Department of Urology, Northwestern University School of Medicine, Chicago, IL
- 1997 Second International Workshop on Diagnostic and Prognostic Markers in Bladder Cancer,
Barcelona, Spain
- 1998 "The Effects of Vitamin D on Prostatic Growth and Neoplasia" and
"The Nuclear Matrix and Cancer"
Visiting Professorship, Department of Urology,
University of Iowa, Iowa City, IA
- 1998 "Utilization of the Bladder Cancer Specific Nuclear Matrix Protein, BLCA-4, for the
Detection of Bladder Cancer" Society for Basic Urologic Research Fall Symposium,
Prouts Neck, ME
- 1998 "Effects of Vitamin D on Prostate Development and Neoplasia"
New Research Approaches in the Prevention and Cure of Prostate Cancer, American
Association for Cancer Research Special Conference in Cancer Research, Palm Springs, CA
- 1999 "Approaches to Prostate and Bladder Cancer: Nuclear Matrix and Vitamin D" Oncology Center,
Grand Rounds, University of Wisconsin, Madison, WI
- 1999 Chair, Think-Tank Workshop on Prostate Cancer
Pittsburgh, PA
- 1999 "The Nuclear Matrix and its Role in Cancer"
Joint Graduate Program, University of Minnesota, Minneapolis, MN

- 1999 "Cancer Associated Nuclear Matrix Proteins"
Department of Biology, SUNY at Buffalo, Buffalo, NY
- 1999 "Nuclear Matrix Proteins as Markers of Cancer"
Tumor Marker Conference, Santa Barbara, California
- 1999 "Nuclear Matrix and Cancer"
Igen International, Inc., Gaithersburg, MD
- 1999 "Nuclear Matrix and Cancer"
DiaDexus, San Jose, California
- 1999 "Prostate Cancer"
UPMC Health News Broadcast –WQED 13
Pittsburgh, PA
- 1999 "The Future of Prostate Cancer: Research Horizons"
A Symposium on Prostate Cancer
NAACP – Pittsburgh, PA
- 1999 Panelist, National Cancer Institute
"Strategies for Developing New Clinical Trials for Prostate Cancer Chemoprevention"
Baltimore, MD
- 1999 "Nuclear Matrix Proteins as Biomarkers of Prostate Cancer"
NCI Prouts Neck Prostate Cancer Symposium
Prouts Neck, ME
- 1999 "Nuclear Matrix Proteins as Biomarkers of Cancer"
Bayer Diagnostics, Tarrytown, N.Y.
- 1999 "Effects of Vitamin D on Prostate Growth, Differentiation and Neoplasia"
3rd World Congress on Urological Research
Paris, France
- 1999 "Efficacy of a Synthetic Lytic Peptide in the Treatment of Prostate Cancer"
Joint Annual Meeting New England and Northeastern Sections of the
American Urological Association
Bermuda
- 1999 Visiting Professor – Department of Urology
University of Medicine & Dentistry of N.J.
New Brunswick, NJ
- 2000 "Diagnostics/Markers/Surrogate/Endpoints"
State of the Science Workshop on Superficial Bladder Cancer
Bethesda, MD
- 2000 "Nuclear Matrix Proteins as Biomarkers of Cancer"
Special Lecturer, Department of Urology

Kyoto University, Graduate School of Medicine
Kyoto, Japan

- 2000 "Efficacy of a Synthetic Lytic Peptide in the Treatment of Prostate Cancer"
Annual Meeting American Urological Association
Atlanta, Georgia
- 2000 "Utilization of a Urine Based Assay for BLCA-4 in the Detection of Bladder Cancer"
Annual Meeting American Urological Association
Atlanta, Georgia
- 2000 "Novel Nuclear Matrix Proteins as Urinary Biomarkers"
Interstitial Cystitis Meeting
Minneapolis, MN
- 2000 Joint Intergroup Specimen Banking Committee Meeting
Chantilly, VA
- 2000 Breakout Session Chair, SOTS Workshop on Superficial Bladder Cancer
Bethesda, MD
- 2000 "The Novel Marker BLCA-4 for the Detection of Bladder Cancer"
Nordic Urology Association Meeting
Stockholm, Sweden
- 2000 Workshop on the "Mechanisms of Tumor Metastasis to the Bone: Challenges
and Opportunities"
Bethesda, MD
- 2001 "Utilization of a Urine Based Assay for BLCA-4 in the Detection of Bladder Cancer"
2nd Tumor Markers Conference
Santa Barbara, CA
- 2001 "Utilization of a Urine Based Assay for BLCA-4 in the Detection of Bladder Cancer"
3rd Annual GU Conference
Nemacolin Woodlands / Farmington, PA
- 2001 "Novel Findings in Cancer Diagnosis and Treatment"
Pacific West Cancer Foundation/NCC
Miami, FL / Nassau
- 2001 "Utilization of a Urine Based Assay for BLCA-4 in the Detection of Bladder Cancer"
European 14th IFCC Congress EUROMEDLAB 2001
Prague, Czech Republic
- 2001 "Approaches of Prostate and Bladder Cancer: Nuclear Structure and Vitamin D"
UroGenesys, Inc. Santa Monica, CA
- 2001 "Novel Technological Applications to Urologic Research"
14th Annual Spring Meeting – Society for Basic Urological Research
Anaheim, CA

- 2001 "Molecular Differentiation of Histologic and Symptomatic BPH"
Annual Meeting American Urological Association
Anaheim, CA
- 2001 "A Novel Highly Specific and Sensitive Urine-Based Assay for the Detection of Bladder Cancer"
Presentation-Eichrom
Anaheim, CA
- 2001 "Utilization of a Urine Based Assay for BLCA-4 in the Detection of Bladder Cancer"
AACC/CSCC 2001-Annual Meeting & Clinical Lab Expo
Chicago, IL
- 2001 "Nuclear Matrix Proteins as Cancer Biomarkers"
FASEB Summer Research Conference
Saxtons River, Vermont
- 2001 "Approaches to Prostate and Bladder Cancer: Novel Tumor Biomarkers and Vitamin D".
Millennium-Pharmaceuticals, Cambridge, Massachusetts
- 2001 "Men's Health Issues in Basic Urologic Research"
Society for Basic Urologic Research/European Society of Urologic Research Symposium
4th World Congress in Urologic Research
Tuscon, Arizona
- 2001 "New Discoveries in Prostate Cancer Biology and Treatment"
AACR/Special Conference in Cancer Research
Naples, Florida
- 2001 "A Novel Highly Specific and Sensitive Urine-Based Assay
for the Detection of Bladder Cancer"
Second Annual EDRN Scientific Workshop
Seattle, Washington
- 2002 "A Novel Highly Specific and Sensitive Urine-Based Assay for the Detection of Bladder Cancer"
XVIIth Congress of the European Association of Urology
Birmingham, England
- 2002 "Molecular Imaging in Cancer: Linking"
AACR Special Conference in Cancer Research
Lake Buena Vista, Florida
- 2002 "Nuclear Matrix Proteins as Cancer Biomarkers"
Georgetown University Medical Center/Department of Cell Biology
Washington, DC
- 2002 GU SPORE Bladder Cancer Intergroup Meeting
Houston, TX
- 2002 NCI-Bladder and Kidney Progress Review Program (PRG) – Session Leader

- 2002 "A Highly Specific and Sensitive Urine-based Assay for the Detection of Bladder Cancer"
AACC/34th Annual Oak Ridge Conference /Cancer Detection and Monitoring
La Jolla, California
- 2002 "Bladder Cancer Diagnostics Expert Consultants Panel"
Geron Corporation
Menlo Park, California
- 2002 "Nuclear Matrix Proteins – Clinical Use in Bladder Cancer"
ESUR/3rd International Conference on Prostate Cancer Research
Trento, Italy
- 2002 "Prostate Cancer – Early Detection"
RUSSELL/The Club at Nevillewood
Nevillewood, PA
- 2002 "Nuclear Matrix Proteins as Cancer Biomarkers"
Department of Epidemiology – University of Pittsburgh
Pittsburgh, PA
- 2002 "Genomic and Proteomic Approaches To Urologic Cancers and Benign Diseases"
Pittsburgh Development Center Seminar Series – University of Pittsburgh
Pittsburgh, PA
- 2002 Head & Neck Cancer Research Seminar
Eye & Ear Boardroom / University of Pittsburgh
Pittsburgh, PA
- 2003 "Molecular Biology and Diagnosis of Bladder Cancer"
3rd Winter Urological Symposium
Špindlerův Mlýn
- 2003 "Nuclear Matrix Proteins as Cancer Biomarkers"
The University of Texas/MD Anderson Cancer Center
Houston, Texas
- 2003 The University of Texas/MD Anderson Cancer Center
Houston, Texas
- 2003 "Utilization of Nuclear Structure to Develop Tumor Markers"
Nuclear Structure and Cancer
FASEB Summer Research Conference
Saxtons River, Vermont
- 2003 "Beyond PSA: Molecular Fingerprints of Prostate Disease"
AUA/Annual Meeting
Chicago, IL
- 2003 "Identification of Novel Tumor Markers by Proteomic Analysis of Nuclear Structure"
March Womens Cancer Research Seminar Series – Magee Womens Hospital
Pittsburgh, PA

- 2003 “Identification of Novel Tumor Markers by Proteomic Analysis of Nuclear Structure”
PLCO/NLST Steering Committee Meeting
Santa Monica, CA
- 2003 “Nuclear Matrix Proteins as Bladder Cancer Biomarkers”
International Bladder Symposium
Arlington, VA
- 2003 Takeda Genome Urology 2003
“Proteomics”
Kyoto Takargaike Prince Hotel
Kyoto, Japan

3. Other research related activities

- | | |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1992 – 1994 | Donald S. Coffey Lectureship Committee
Society for Basic Urologic Research |
| 1996 | Editor, “Cell Structure and Signaling”
Advances in Molecular and Cellular Biology, JAI Press, Greenwich, CT |
| 1997 | Ad-hoc Member, Cell Biology Study Section American Cancer Society |
| 1997 | Member, Study Section – Special Emphasis Panel in Urology, NIDDKD, DRG, National Institutes of Health |
| 1997 | Special Emphasis Panel Program Project Review Committee,
“Bone Cell Structure and Gene Expression”, NIAMS, National Institutes of Health |
| 1997 – Present | Member, Education Committee
American Association for Cancer Research |
| 1998 - Present | Cell Biology Study Section, USAMRMC (DOD) Prostate Cancer Research Program |
| 1998 | Member, Study Section – Special Emphasis Panel – Urology
Research Centers, NIDDKD, DRG, National Institutes of Health |
| 1998 – 2003 | Member, Society for Basic Urologic Research
Symposium Organizing Committee |
| 1998 – Present | Editorial Board, Urologic Oncology Survey Section
Urologic Oncology |
| 1998 | Co-Chairperson, Poster Discussion Session, “Molecular Markers for Cancer
Susceptibility”
American Association for Cancer Research 1998 Annual Meeting |
| 1998 – 2000 | Ad-Hoc Member, Executive Board
Society for Basic Urologic Research |

1998 – 1999	Member, Planning Committee NCI Prouts Neck Prostate Cancer Symposium
1998 – Present	Member, Prostate Research Review Committee Veterans Health Administration
1999	Member, Research Enhancement Award Program Review Committee Veterans Health Administration
1999 – 2003	Treasurer Society for Basic Urologic Research
1999 – Present	Member, Peer Review Committee on Cell Structure and Metastasis. American Cancer Society
1999 - 2000	Ad-Hoc Member, NIH, National Institutes of Health, Metabolic Pathology Study Section
2000 - Present	Ad-Hoc Member, NCI, National Cancer Institute, PO1 Review Committee
2000 - Present	Member, Editorial Board, The Prostate
2001 – Present	Member, Metabolic Pathology Study Section – Oncological Sciences Integrated Review Group – Center for Scientific Review
2001	Co-Director - FASEB Summer Research Conference “Nuclear Structure and Cancer” Saxtons River, Vermont
2001	Section Chair/NCI, National Cancer Institute, Kidney/Bladder Cancers Progress Review Grp Chantilly, Virginia
2001	Co-Director, AACR Conference: New Discoveries in Prostate Cancer Naples, FL
2001 - Present	Editor – Molecular Oriented Basic Science Section Gold Journal - <i>UROLOGY</i>
2002 - 2007	Director, Prouts Neck Prostate Cancer Meetings
2002 - Present	Chair – Steering Committee of the MTOPS Biomarker Consortium
2003	Co-Chair – Discussion Session – AUA Annual Meeting “Beyond PSA: Molecular Fingerprints of Prostate Disease” Chicago, IL.
2003	Survey Editor – Urologic Oncology
2003	PO1 Review Panel – 1 PO1 CA86871-01 Chapel Hill, NC.
2003	PO1 Review Panel – 1 P01 CA09390-01

Teleconference

2003

Cancer Center Review Panel – Site Visit
Irving Cancer Center, Columbia University

4. Scientific Reviewer

Cancer Research
Journal of Cellular Biochemistry
Journal of Urology
Urology
Gold Journal – *Urology*
Urologic Oncology: Seminars and Original Investigations
Experimental Cell Research
Veterans Affairs Research Command
Henry Ford Health Sciences Center
Journal of Clinical Investigation
Cancer Investigation
Journal of the National Cancer Institute
Journal of Cell Science
The Prostate
Urologic Oncology
IUBMB Life
Cancer Chemotherapy and Pharmacology
Cancer Detection and Prevention
Oncology

LIST OF CURRENT RESEARCH INTERESTS:

1. Characterization of differences in nuclear matrix proteins between normal and transformed prostate, bladder and kidney cells. Identifying their role in transformation and the possibility of using these nuclear matrix proteins as diagnostic tools and potentially as therapeutic targets.
2. Examination of the role of the nuclear matrix in the regulation of tissue specific gene expression, focusing on androgen regulated gene expression.
3. Elucidating the role of the nuclear matrix in transcriptional regulation of gene expression.
4. Investigating the role of vitamin D in the normal prostate and in the treatment of prostate cancer.

SERVICE:

1. University and Medical School

1990

Student Representative – Search Committee for Selection of the Dean,

Johns Hopkins University School of Medicine

1990 – 1991	Member, Rutgers Alumni Association Board of Directors
1994	Presentation to Wilkinsburg Kiwanis Club on PCI and Prostate Cancer
1995 – Present	Editorial Board, UPCI Clinical News
1995 – 1996	Member, UPCI Internet Committee
1996	Presentation to Parkway West Rotary Club on UPCI and Prostate Cancer
1997 – Present	Member, UPCI Annual Scientific Retreat Committee
1997 – Present	Chair, PUCC Search Committee
1997 – Present	Chair, PUCC Pilot Projects Program
1997 – Present	Member, Molecular Oncology, UPCI Search Committee
1997 – Present	Member, Urologic Oncology Search Committee
1998 – Present	Co-Chair, Recruitment Committee The Integrated Program in Biomedical Sciences University of Pittsburgh School of Medicine
1998	Presentation to USTOO Prostate Cancer Support Group at Allegheny General Hospital
1998 – Present	Member - UPCI Information Systems Steering Committee
1999	Presentation to Men's Club, Temple Ohav Shalom on UPCI and Prostate Cancer
1999	Presentation to USTOO Prostate Cancer Support Group at UPMC
1999	Presentation to Kidney Cancer Association, Pittsburgh, PA
1999-2000	Chair, Recruitment Committee The Integrated Program in Biomedical Sciences, University of Pittsburgh School of Medicine
2000 – Present	Member – Competitive Medical Research Fund (CMRF) Review Committee
2000 – Present	Entrepreneurial Oversight Committee University of Pittsburgh School of Medicine
2000 – Present	Member – UPMC Shadyside Radiation Safety Committee
2001	Presentation to UPCI Scientific Advisory Council Meeting
2001 - 2004	Member – University of Pittsburgh Technology Transfer Oversight Committee

2002 – 2003	Member – Recruitment Committee The Integrated Program in Biomedical Sciences
2003	Foundations Course Advisory Committee/University of Pittsburgh
2003	Presentation to UPCI Scientific Advisory Council Meeting
2003	Member – Department of Urology Promotions Committee

2. Community activities

1994 - 1997	Vice-President, Franklin Ridge Community Service Association Board of Directors
1997 – 1998	President, Franklin Ridge Community Service Association Board of Directors
1998 – 1999	Secretary, Franklin Ridge Community Service Association Board of Directors

3. Continuing Medical Education (CME) activities.